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just as asymptotes meet a curve at infinity in either direction. If this explanation is correct, the case is a curiosity which has (so far as I know) hitherto escaped attention.

Observations of Saturn made at Juvisy Observatory in 1900.

By C. Flammarion.

The planet was observed from July to October last, and, although the number of clear nights was abnormally great, definition was seldom satisfactory.

The instrument employed was the 9¾-inch equatorial, bearing negative eyepieces magnifying 218, 300, 400, and 600 diameters, the observers being M. Antoniadi and myself.

1. *The Globe.*

The N. polar cap was not very dark in 1900. No certain traces of the N. temperate band were seen. The great double tropical belt was, however, a very striking feature of the planet, its duplex character being recognised under almost any kind of definition—even when the Cassini division was invisible.* The dark spots occasionally found on this belt were much better seen in 1900 than in 1899. Thus, one of them, having a condensation on each of the components of the belt, was seen in transit over the central meridian on 1900 July 15^d 11^h 10^m G.M.T. Another, much more marked spot, but having no condensation on the N. branch, was central on September 5^d 7^h 41^m; and a third, double spot, on September 5^d 8^h 33^m. By far the brightest, though yellowest, portion of the globe was the equatorial zone. It was very uneven in tint, and mottled in appearance. A faint dusky band, almost marking the equator, was seen with certainty on July 10 and September 5.

The decreasing luminosity of the globe towards the limb was very marked.

2. *The Rings.*

(*a*) *Outer Ring, A.*—Encke's division could never be seen, though carefully looked for. The indentations along the ansæ, near Cassini's division, were easily seen, and have been noted on many occasions in 1900. As far as could be judged, their structure was triangular; one side of each triangle resting on the inner edge of this Ring.

As usual, Cassini's division seemed grey and not black. Probably there is some matter in it. In fact, Maxwell has shown that the collisions among the particles would tend to widen the several rings. The division seemed still tangent to the globe,

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* Dr. Deslandres was recently successful in photographing the double belt with the great 23·6-inch photographic equatorial of Meudon.

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though the presence of the planet's shadow rendered this observation rather difficult.

(*b*) *Inner Bright Ring, B.*—This has been invariably destitute of detail, the gradations shown by Trouvelot being quite invisible in 1900, though they have been so marked in the last few years. But the inner edge of B was exceedingly indefinite, and at times it was impossible to say where the bright ring ended and where the "dark" began.

(*c*) *The "Crape" Ring, C.*—This was fainter than usual along the ansæ, an effect due, very likely, to the low altitude of the planet. On October 2 the appearance described on pp. 21–22 of the present volume, and now given in the annexed fig. 1, was detected easily, when the part of the "Crape" Ring across the globe did not seem to have its inner edge in continuation of the part projected on the sky.

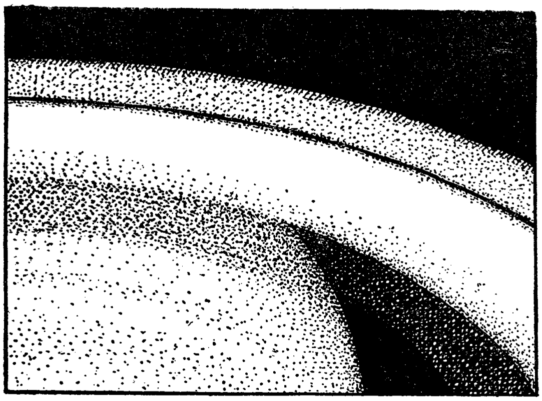

Fig. 1. Appearance of the "Crape" Ring on 1900 October 2.

The shadow of the planet had an irregular outline owing to the varying luminosity of the Ring (fig. 2). Irradiation caused it to appear to turn round in a sharp curve into the Cassini division.

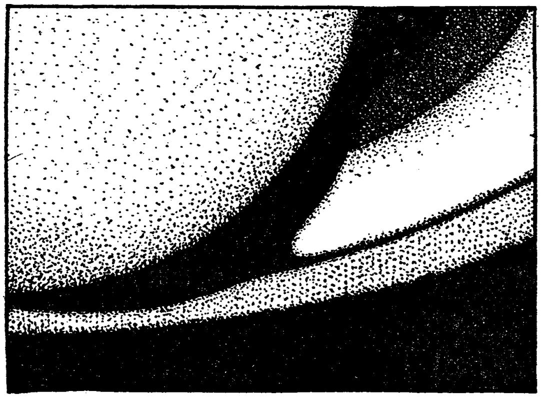

Fig. 2. Irregularity in the planet's shadow, due to irradiation.

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Lastly, as in previous years, the eastern vacuity between *Saturn* and the Ring seemed greater than the western, the effect being very marked indeed in 1900.

Note on the Rotation Period of Saturn in 1896 *and* 1897.

By C. Flammarion.

Systematic observations of *Saturn* were started here in 1894, and since that time the work has been carried on to the present year.

In 1894 very few details were seen on the globe, and the double structure of the great dusky belt north of the equatorial zone was scarcely recognised. No spots, dark or white, were seen at that time.

In 1895 the planet was seen much better. The duplicity of the north equatorial belt was well marked, while the narrow band marking the equator was also an obvious feature. On 1895 July 8 a very small dark spot was seen on this band, transiting the central meridian at 9^h G.M.T. This marking was well suited for getting a very accurate determination of the rotation period of the material very near the equator; but it was never seen again.

On 1896 June 27 M. Antoniadi, by stopping down the aperture of the 9¾ inch equatorial to 6½ inches, detected a faint dusky spot on the great belt; it was double, having a condensation on each of the two components of the belt. A fainter single spot was seen meantime preceding by a few minutes the double spot. Since that time the dark spots of *Saturn* were easily seen whenever the atmospheric conditions were not very unfavourable.

A thorough discussion of the observations gives the following results:—

Three of the dark spots seen in 1896 could be followed through several transits over the central meridian.

Spot.	First seen.	Last seen.	No. of Rotations.	Rotation Period. h	m	s
1896 A	June 27	July 6	21	10	13	58·0
,, B	,, 27	,, 11	33	10	14	39·6
,, C	,, 29	,, 11	28	10	14	4·1
	Mean period of rotation		... ...	10	14	14·

In 1897 the dusky spots were very easy objects, and a great number of them have been seen by myself and other observers.

Four spots could be followed through more than one transit.